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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/699,109

10/31/2003

Edward C. Gunzel

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07/03/2008

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EXAMINER

COLE, ELIZABETH M

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

07/03/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/699,109

Applicant(s)

GUNZEL ET AL.

Examiner

Elizabeth M. Cole

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-86 is/are pending in the application.
- 4a) Of the above claim(s) 38-81 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38, 82-86 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date: _____

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/29/08 has been entered.

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the specification does not provide proper antecedent basis for the limitation that the tape has a narrow width just slightly greater than the cable width. The drawing provide sufficient support that that limitation is not new matter, but the specification does not provide proper antecedent basis for the limitation.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-8, 16-32, 82-86 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication 2001/0006173 to Rock et al in view of Caird et al, U.S. Patent NO. 3,768,156. Rock discloses a fabric having a conductive cable attached to it. The fabric can be a knitted, woven or nonwoven material and can comprise multiple layers. The fabric can be hydrophobic or hydrophilic. See paragraph 0020. The conductive cable can be covered by a barrier

layer which corresponds to the claimed tape. The barrier layer can comprise multiple layers. The layers can comprise polyurethane and PTFE among other materials. The barrier layer can be adhesively bonded to the fabric layer and overlies the conductive cable. See figure 12 as well as paragraph 0031. With regard to the limitations set forth in claims 22-26, no structure is set forth for the claimed articles. Therefore, these statements have been considered to be statements of intended use. Rock et al differs from the claimed invention because although Rock et al does disclose employing multiple fabric layers it does not explicitly state that the cable extends across two of the layers. Caird et al teaches that conductive cables such as electrodes can be incorporated into garments such as jacket so that the cable extends across two fabric panels. See figure 3 as well as col. 3, line 53 – col. 4, line 41. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the jacket of Rock so that the cable extended across two fabric panels, motivated by the teaching of Caird that this was a known method of forming a garment such as a jacket which comprised conductive elements and because the more panels that are used in jackets the better the fit of the jacket. With regard to the limitations regarding the conductivity of the cable, since the cables in Rock are used as heating elements, it would have been obvious to have selected the appropriate conductivity and resistance in the cables in order to produce a material having the desired properties. With regard to the limitations regarding durability after washing, since Rock appears to disclose the same structure, presumably the material of Rock would meet these limitations.

5. With regard to the limitation that the tape has a narrow width justly slightly greater than the cable width, Rock teaches that the barrier layer can have two functions in the fabric body. First, the barrier layer can be provided in order to impart properties such as preventing air and water droplets to pass through the fabric in order to provide a windproof, water resistant and vapor permeable fabric. See paragraphs 0031. Second, the barrier layer can be provided to protect the circuit against the effects of abrasion. See paragraph 0033. Rock differs from the claimed invention because it does not teach or show that the barrier layer can be narrow and only slightly wider than the cable. However, since Rock teaches providing the barrier for two reasons, to form a windproof, water resistant fabric/garment and to protect the cable, it would have been obvious to have formed the barrier so that it only was slightly wider than the cable, in situations where the properties of being windproof and water resistant were not desired in the entire garment, for example, in garments intended for use in hot weather, etc. Further, Caird et al teaches that it is known to provide tapes, (element 4) to protect cables in electrically conductive fabrics, which are only slightly wider than the cable. Therefore, the person of ordinary skill in the art at the time the invention was made would have been able to select the particular size of the barrier layer of Rock, in view of the teachings both of Rock and Caird, including a size which was only slightly wider than the cable, in order to produce a less expensive and lighter weight fabric, while still protecting the electrical cable and circuit.
6. Claims 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rock et al in view of Caird et al, U.S. Patent NO. 3,768,156 as applied to claims above,

and further in view of Cordia et al, U.S. Patent No. 5,236,765. Rock discloses a hearable fabric as set forth above. Rock differs from the claimed invention because Rock et al does not disclose the particular types of adhesives which can be used to bond the barrier layer which overlies the cable to the fabric layer. Cordia teaches at col. 9, lines 4-16, that pressure sensitive, hot melt or curable adhesives can be used to bond heating elements to fabric layers. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention to have employed the particular adhesives set forth by Cordia to bond the barrier tape of Rock to the fabric layer, since Cordia teaches that such adhesives are suitable for use to bond heating elements to fabric layers.

7. Claims 33-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rock et al in view of Caird et al as applied to claims above, and further in view of Parker, U.S. Patent No. 5,658,164. Rock discloses a hearable fabric as set forth above. Rock differs from the claimed invention because Rock does not disclose employing a micro ribbon as the conductive cable. Parker teaches that micro-ribbon cables which comprise an insulation layer can be used to form electrical connections. Therefore, it would have been obvious to one of ordinary skill in the art at the time to have employed a micro-ribbon as the cable in Rock. One of ordinary skill in the art would have been motivated to employ a micro ribbon cable because Parker teaches that such cables are rugged and durable. See col. 4, lines 40-45.

8. Applicant's arguments filed 4/29/08 have been fully considered but they are not persuasive. Applicant argues that Rock does not disclose the claimed narrow tape

having a width just slightly wider than the cable. This argument is addressed above in paragraph 5. With regard to Caird, it is noted that Caird does disclose a protective PVC tape, (element 4), having a width only slightly wider than the cable.

9. Applicant argues that the fabric strips of Caird are not a garment or fabric panel. However, Caird clearly teaches fabric panels and calls them fabric panels. Caird teaches extending electrode 48 across two panels. Therefore, Caird teaches this feature.

10. Applicant argues that the cited references do not disclose that the tape is adhered to both the textile and the cable. However, Rock teaches a fabric article 10 which is combined with a barrier layer 102, wherein the barrier layer is attached to the fabric layer by lamination or with an adhesive. See paragraph 0030. The barrier layer overlies the conductive cable. Figure 14 shows that the barrier layer extends over the cable and contacts the fabric. The reference teaches adhesively bonding the barrier layer so that it overlies the cable and is bonded to the fabric. Therefore, the barrier layer corresponds to a tape layer. The structure claimed is the same as the structure of Rock, whether it is called a barrier layer or a tape layer. Figure 14 shows the barrier layer overlying the cable. Rock teaches attaching the barrier layer by means of an adhesive or by lamination. Further, Rock teaches in paragraph 0005 that the cable is disposed and secured between the protective layer and the first surface. The cable can be attached the first surface of the fabric by adhesion of the cable upon the first surface. Therefore, Rock clearly teaches that the cable can be adhesively bonded to the fabric and that the barrier layer can use an adhesive to bond the barrier layer over the cable to

the fabric. Further, Rock teaches that the adhesive 104 is "typically" applied in spots, line or other discrete regions, which implies that the adhesive 104 can also be applied continuously. Rock contains no teaching or suggestion that care must be used to ensure that the adhesive does not contact the cable 16. Rock teaches that the cable can be adhesively bonded to the fabric. Rock does not teach that the cable is damaged or destroyed if any adhesive contacts the cable. Rock clearly teaches and shows adhesive 104 which is applied on both sides of the cable 16 and teaches using the adhesive tape of Lomb as the barrier layer. Also, with regard to the difference between adhering and associating, it is noted that in Rock, the cables 16 are already bonded to the underlying fabric layer, which is why Rock refers to adhering the fabric layer and barrier layer, rather than adhering the cable and the barrier layer. Finally, the reference teaches employing an adhesive layer on a barrier layer, (i.e., a tape), to cover the cable, where the adhesive layer and barrier layer are adhered to the fabric. The reference is absolutely silent as to preventing the adhesive from touching the cable. Therefore it is not a strained interpretation of the reference to state that the adhesive would overlie the cable and extend to the fabric layer.

11. With regard to Rock in view of Caird and Cordia, and Rock in view of Caird and Parker, Applicant argues that the claims are allowable for the same reasons set forth with regard to Rock in view of Caird. These arguments are addressed above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth M. Cole whose telephone number is (571) 272-1475. The examiner may be reached between 6:30 AM and 6:00 PM Monday through Wednesday, and 6:30 AM and 2 PM on Thursday.

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The examiner's supervisor Rena Dye may be reached at (571) 272-3186.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

The fax number for all official faxes is (571) 273-8300.

/Elizabeth M. Cole/
Primary Examiner, Art Unit 1794

e.m.c